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Intellectual Property Administration
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Inventor(s): Kay Yut Chen

Application No.: 09/858,251

Filing Date: May 15, 2001

PATENT APPLICATION

ATTORNEY DOCKET NO. 10014416-1

Confirmation No.: 3054

Examiner: Siegfried E. Chencinski

Group Art Unit: 3692

Title: An Automated Decision Support System for Designing Auctions

Mail Stop Appeal Brief--Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL LETTER FOR RESPONSE/AMENDMENT

Transmitted herewith is/are the following in the above-identified application:

<input type="checkbox"/> Response/Amendment	<input type="checkbox"/> Petition to extend time to respond
<input type="checkbox"/> New fee as calculated below	<input type="checkbox"/> Supplemental Declaration
<input type="checkbox"/> No additional fee	
<input checked="" type="checkbox"/> Other Response to Notification of Non-Compliant Appeal Brief	Fee\$ 0

CLAIMS AS AMENDED BY OTHER THAN A SMALL ENTITY						
(1) FOR	(2) CLAIMS REMAINING AFTER AMENDMENT	(3) NUMBER EXTRA	(4) HIGHEST NUMBER PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	(6) RATE	(7) ADDITIONAL FEES
TOTAL CLAIMS		MINUS		= 0	X \$50	\$ 0
INDEP. CLAIMS		MINUS		= 0	X \$210	\$ 0
<input type="checkbox"/> FIRST PRESENTATION OF A MULTIPLE DEPENDENT CLAIM						+\$370 \$ 0
EXTENSION FEE	<input type="checkbox"/> 1st Month \$120	<input type="checkbox"/> 2nd Month \$460	<input type="checkbox"/> 3rd Month \$1050	<input type="checkbox"/> 4th Month \$1640		\$ 0
						OTHER FEES \$ 0
						TOTAL ADDITIONAL FEE FOR THIS AMENDMENT \$ 0

Charge \$ 0 to Deposit Account 08-2025. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

Date of Deposit: October 15, 2007

Typed Name: Nancy Meshkoff

Signature: 

Respectfully submitted,

Kay Yut Chen

By



Dan C. Hu

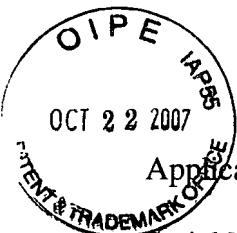
Attorney/Agent for Applicant(s)

Reg No. : 40,025

Date : October 15, 2007

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicants: Kay Yut Chen et al. § Art Unit: 3628
Serial No.: 09/858,251 §
Filed: May 15, 2001 § Examiner: Siegfried E.
For: An Automated Decision Support § Chencinski
System for Designing Auctions § Atty. Dkt. No.: 10014416-1
§ (HPC.0331US)

Mail Stop Appeal Brief—Patents

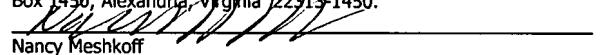
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RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

The Notification of Non-Compliant Appeal Brief indicated that, for each dependent claim argued separately, that such dependent claim must satisfy 37 C.F.R. § 41.27(c)(1)(v). For reasons set forth in the petition filed September 7, 2007, Applicant respectfully disagrees with the Notification, and in fact, Applicant respectfully submits that the originally filed appeal brief is compliant with 37 C.F.R. § 41.37.

However, since the filing of a petition does not toll the response due to the Notification, Applicant is enclosing an Amended Summary of Claimed Subject Matter that provides a summary of claimed subject matter for each of the dependent claims argued separately, as required by the Notification. Note that just the Amended Summary of Claimed Subject Matter section is provided pursuant to MPEP § 1205.03 (8th ed., Rev. 5) at 1200-16.

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Nancy Meshkoff

Withdrawal of the Notification is therefore respectfully requested.

Respectfully submitted,



Date: October 15, 2007

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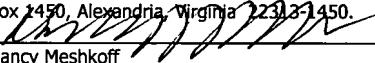
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V. AMENDED SUMMARY OF THE CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element.

Independent claim 1 recites a computer-implemented automated decision support system (Fig. 1:10) for designing an auction for a given item, comprising:

a structure extractor (Fig. 1:13; Fig. 2:13) that estimates unknown elements of market structure (Spec., 9:11-10:5) of the auction based on auction characteristics data extracted from historical auctions for similar items and a bidding model matching the extracted auction characteristics data (Spec., 10:19-11:8; 12:2-8; 12:16-15:21; Figs. 5-7);

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a bidding behavior predictor (Fig. 1:14; Fig. 3:14) that predicts bidding behaviors of bidders in the auction based on the estimated unknown elements of market structure and characteristics of the auction (Spec., 17:15-19:14; Fig. 8);

an optimizer (Fig. 1:15; Fig. 4:15) that employs an evaluation criterion to generate an evaluation of the auction based on (1) the estimated unknown elements of market structure and (2) the predicted bidding behavior of bidders (Spec., 19:15-21:8; Figs. 9-10).

Dependent claim 3 further recites:

the optimizer (Fig. 1:15) selects the best auction design candidates from the evaluation of the auction, and sends these best auction design candidates to an external auction implementation system to implement the auction (Spec., 21:3-22:1).

Dependent claim 5 further recites:

a historical auction data repository (Fig. 1:11) that stores historical auction data for a plurality of historical auctions of a plurality of items, including items similar to the given item (Spec., 11:25-12:15);

a bidding model repository (Fig. 1:12) that stores a plurality of bidding models (Spec., 12:16-24).

Dependent claim 6 further recites that the structure extractor (Fig. 1:13, Fig. 2:13) further comprises:

a data selection module (Fig. 2:20) that accesses an external historical auction data repository for the auction characteristics data of the historical auctions for the items similar to the given item based on an user input of the given item to be auctioned (Spec., 14:5-11);

a bidding model selection module (Fig. 2:21) that selects, from an external bidding model repository, the bidding model matching the auction characteristics data (Spec., 14:21-24);

a structure estimation module (Fig. 2:22) that combines the extracted auction characteristics data and the bidding model to estimate the unknown elements of market structure of the auction (Spec., 15:2-20).

Dependent claim 18 further recites that:

the bidding model comprises one of an English auction bidding model, a Dutch auction bidding model, a first-price-sealed bid bidding model, and a Vickrey auction bidding model (Spec., 12:16-24).

Dependent claim 8 further recites that the behavior predictor (Fig. 3:14) further comprises:

a bidding model selection module (Fig. 3:30) that selects, from an external bidding model repository, the bidding model matching the characteristics of the auction, wherein the characteristics of the auction is a user input (Spec., 18:15-23);

a behavior prediction module (Fig. 3:31) that predicts the bidding behaviors of bidders in the auction by applying the estimated unknown elements of market structure into the extracted bidding model matching the user input of auction characteristics of the auction (Spec., 18:24-19:6).

Dependent claim 9 further recites that the optimizer (Fig. 4:15) further comprises:

an outcome prediction module (Fig. 4:40) that receives a user input evaluation criterion and a user input of auction decision candidates to provide prediction for each of the auction decision candidates using the evaluation criterion and based on (1) the estimated unknown elements and (2) the predicted bidding behavior of bidders (Spec., 19:25-20:13);

an optimal decision module (Fig. 4:41) that ranks the evaluation for each of the auction decision candidates (Spec., 20:14-16).

Dependent claim 7 further recites that the auction characteristics data are part of auction mechanism data that also include bid data, wherein the structure estimator estimates the unknown elements by:

applying the bid data to the bidding model to invert the bidding model so as to express unobservable variables in the bidding model in terms of the bid data (Spec., 15:2-9);

applying a statistical density estimation technique to the expression so as to obtain an estimate of the unknown elements (Spec., 15:9-11).

Dependent claim 19 further recites that:

the auction characteristics data describe at least a reserve price of the given item, an auction format, and a number of bidders (Spec., 7:24-8:5).

Dependent claim 20 further recites that:

the bidding behavior predictor to receive as input plural auction decision candidates that correspond to different types of auctions, wherein the bidding

behavior predictor predicts bidding behaviors for the plural auction decision candidates (Spec., 21:3-8).

Independent claim 10 recites a computer-implemented method for providing an automated auction analysis, comprising:

estimating unknown elements of market structure (Spec., 9:11-10:5) of the auction based on auction characteristics data extracted from historical auctions for similar items and a bidding model matching the extracted auction characteristics data (Spec., 10:19-11:8; 12:2-8; 12:16-15:21; Figs. 5-7);

predicting bidding behaviors of bidders in the auction based on the estimated unknown elements of market structure and characteristics of the auction (Spec., 17:15-19:14; Fig. 8);

employing an evaluation criterion to generate an evaluation of the auction based on (1) the estimated unknown elements of market structure and (2) the predicted bidding behavior of bidders (Spec., 19:15-21:8; Figs. 9-10).

Dependent claim 12 further recites:

selecting the best auction design candidates from the evaluation of the auction (Spec., 21:3-8, 19-21);

sending these best auction design candidates to an external auction implementation system to implement the auction (Spec., 21:17-19, 21:21-22:1).

Dependent claim 14 further recites that the step of estimating the unknown elements of market structure of the auction further comprises:

accessing an external historical auction data repository for the auction characteristics data of the historical auctions for the items similar to the given item based on an user input of the given item to be auctioned (Spec., 14:5-11);

selecting, from an external bidding model repository, the bidding model matching the auction characteristics data (Spec., 14:21-24);

combining the extracted auction characteristics data and the bidding model to estimate the unknown elements of market structure of the auction (Spec., 15:2-20).

Dependent claim 21 further recites that:

estimating the unknown elements of the market structure of the auction is based on the bidding model selected from the group consisting of an English

auction bidding model, a Dutch auction bidding model, a first-price-sealed bid bidding model, and a Vickrey auction bidding model (Spec., 12:16-24).

Dependent claim 17 further recites that the step of employing an evaluation criterion to generate an evaluation of the auction further comprises the steps of:

receiving a user input evaluation criterion and a user input of candidate auction decisions to provide prediction for each of the candidate auction decisions using the evaluation criterion and based on (1) the estimated unknown elements and (2) the predicted bidding behavior of bidders (Spec., 19:25-20:13);

ranking the evaluation for each of the candidate auction decisions (Spec., 20:14-16).

Dependent claim 16 further recites that the step of predicting bidding behaviors of bidders in the auction further comprises the steps of:

selecting, from an external bidding model repository, the bidding model matching the characteristics of the auction, wherein the characteristics of the auction is a user input (Spec., 18:14-23);

predicting the bidding behaviors of bidders in the auction by applying the estimated unknown elements of market structure into the extracted bidding model matching the user input of auction characteristics of the auction (Spec., 18:24-19:6).

Dependent claim 15 further recites that the step of combining the extracted auction characteristics data and the bidding model further comprises the steps of:

applying bid data to the bidding model to invert the bidding model so as to express unobservable variables in the bidding model in terms of the bid data (Spec., 15:2-9);

applying a statistical density estimation technique to the expression so as to obtain an estimation of the unknown elements (Spec., 15:9-11).

Dependent claim 22 further recites that:

estimating the unknown elements of the market structure of the auction is based on the auction characteristics data including at least a reserve price of the given item, an auction format, and a number of bidders (Spec., 7:24-8:5).

Dependent claim 23 further recites:

receiving as input plural auction decision candidates that refer to different types of auctions, wherein predicting the bidding behaviors comprises predicting bidding behaviors for the plural auction decision candidates (Spec., 21:3-8).